

CLAIM AMENDMENTS

Please amend Claims 1 and 10, as follows:

1. (Currently Amended) An image pickup apparatus comprising:
a solid-state image pickup element formed on a single semiconductor chip, said solid-state image pickup element including:
photoelectric conversion units arranged two-dimensionally;
a plurality of CCDs adapted to transfer charges generated by said photoelectric conversion units arranged two-dimensionally, each of said plurality of CCDs being arranged correspondingly to each line of photoelectric conversion units;
a plurality of charge detection circuits adapted to detect the charges from said plurality of CCDs and ~~supplying~~ to supply corresponding signal levels, each of said plurality of charge detection circuits being arranged correspondingly to each CCD;
a common output line to which signals from said plurality of charge detection circuits are sequentially output;
a plurality of transfer transistors adapted to transfer the signals from said plurality of charge detection circuits to said common output line; and
a scanning circuit adapted to control each of said plurality of transfer transistors independently to ~~output~~ select the signals to be output from said plurality of charge detection circuits to said common output line on the basis of each photoelectric conversion unit.

2. (Previously Presented) An apparatus according to Claim 1, further comprising a plurality of signal processing circuits inserted, respectively, between said transfer transistors and charge detection circuits.

3. (Original) An apparatus according to Claim 2, wherein said signal processing circuit includes a noise removing circuit adapted to remove a noise component contained in the signal output from said charge detection circuit.

4. (Previously Presented) An apparatus according to Claim 2, wherein each said signal processing circuit includes a clamp circuit.

5. (Original) An apparatus according to Claim 1, further comprising a drive circuit adapted to drive said solid-state image pickup element so as to sweep at least a portion of unnecessary charges contained in said photoelectric conversion units arranged two-dimensionally, at input units of said plurality of charge detection circuits.

6. (Original) An apparatus according to Claim 1, wherein said charge detection circuit is provided in common to said plurality of CCDs and is connected to said plurality of CCDs through separate transistors.

7. (Previously Presented) An apparatus according to Claim 1, wherein each said charge detection circuit comprises a control circuit adapted to execute control to supply

power when an input unit of said charge detection circuit is reset and when the charges from said CCD are converted into a voltage and output.

8. (Original) An apparatus according to Claim 1, wherein said CCD and said charge detection circuit are separated by a well.

9. (Previously Presented) An apparatus according to Claim 1, further comprising
a lens adapted to form a light image on said solid-state image pickup element, and
a signal processing circuit adapted to process a signal from said solid-state image pickup element.

10. (Currently Amended) An image pickup apparatus comprising:
a solid-state image pickup element formed on a single semiconductor chip, said solid-state image pickup element including:
photoelectric conversion units arranged two-dimensionally;
a plurality of CCDs adapted to transfer charges generated by said photoelectric conversion units, each of said plurality of CCDs being arranged correspondingly to each line of photoelectric conversion units;

a plurality of charge detection circuits adapted to detect the charges from said CCDs and supplying corresponding signal levels, each of said plurality of charge detection circuits being arranged correspondingly to each CCD; and

a plurality of A/D conversion circuits adapted to ~~convert the~~ generate digital signals from ~~said charge detection circuits into digital signals which correspond to the~~ differences between the signal levels supplied by said charge detection circuits and noise levels of said photoelectric conversion units, respectively, each of said A/D conversion circuits being arranged correspondingly to each charge detection circuit.

11. (Original) An apparatus according to Claim 10, wherein said A/D conversion circuit comprises a sequential-comparison-type circuit.

12. (Previously Presented) An apparatus according to Claim 10, further comprising a lens adapted to form a light image on said solid-state image pickup element, and
a signal processing circuit adapted to process a signal from said solid-state image pickup element.

13. (Original) An apparatus according to Claim 11, wherein said CCD and said charge detection circuit are separated by a well.